

*Sub Spec
Approved*

Application/Control Number: 10/068,509

Art Unit: 1723

Page 7

*For Entry
C. C.*

Substitute Specification

TITLE: PLASTICATING SCREW FOR EFFICIENT MELTING AND MIXING OF POLYMERIC MATERIAL

BACKGROUND - FIELD OF INVENTION

This invention relates to extruders and injection machines of the type in which a screw rotatable within a barrel is employed to extrude or inject molten resinous material to the outlet port of a plasticating barrel. More particularly, this invention is concerned with thorough melting and mixing resinous material at the end of the transition and into the metering section of the plasticating screw.

BACKGROUND DESCRIPTION OF PRIOR ART

Plasticating equipment commonly used today are of the type which receive polymer pellets or powder, heat and work the polymer to convert it into a melted or molten state before delivering the molten polymer under pressure through a restricted outlet or discharge port. Although there are several different types of plastic polymers each having different physical properties, it is desirable that the extrudate leaving the typical plasticating equipment be fully melted, homogeneously mixed and uniform in temperature, viscosity, color and composition.

The plasticating apparatus includes an elongated cylindrical barrel, which may be